No. CCXIV.—Vol. XI. December, 1904.

JOURNAL

OF THE

Society for Psychical Research.

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NOTICE.

The Hon. Secretary, Mr. J. G. Piddington, has now left England and will be away for about a year. During his absence all communications for the Hon. Secretary should be addressed to his colleague, the Hon. Everard Feilding, 13 Hertford Street, Mayfair, London, W.

As Mr. Piddington is giving up his house, he requests that no letters after the present date should be addressed to 87 Sloane Street, London, S.W.

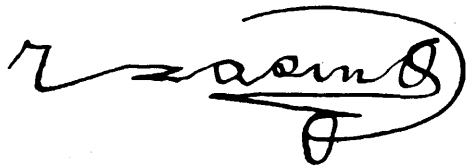
A CASE OF AUTOMATIC INTELLIGENCE.

By Sir Oliver Lodge.

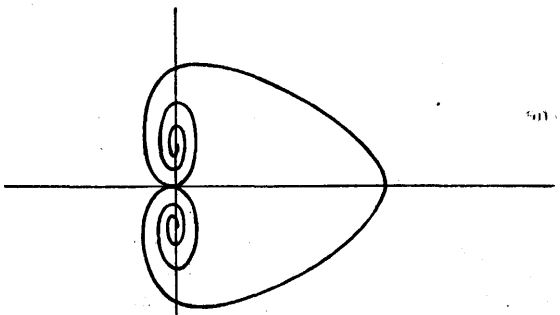
The following is an interesting case of subliminal or automatic intelligence apparently greater than the normal intelligence of the sitter at the time. One of its features of interest is that the witness is exceptionally competent. The account was handed to me at a recent meeting of the Society by the Rev. William Roberts, of 76 Kensington Gardens Square, and it was written by an old student of my own at Bedford College in the seventies —one of the ablest students there—Miss C. M. Pole, daughter of the late Dr. Pole, F.R.S., the well-known Engineer, Musician, and authority on Whist. Miss Pole is now Mrs. Garrett Smith, living at Magdeburg, and writes as follows :—

In the early part of 1885 I was staying at —— in the house of Mrs. Q., and I and her daughter, Miss Q., B.A. Lond., used to amuse ourselves in writing with a Planchette. We had several Planchettes (I think four), but we could only get response from one of them, which belonged to Miss Q. In the house with us were some eight or nine others, . . . but for no other pair would the Planchette act. The same one had formerly given good results with Miss Q. and another friend, but I have never written with a Planchette before or since. We got all sorts of nonsense out of it, sometimes long doggerel rhymes with several verses. Sometimes

we asked for prophecies, but I do not remember ever getting one which came true, and my impression is that generally when we asked for a prophecy the thing went off in a straight line—running off the table if we did not take our hands off. It often did this, refusing to write at all, and towards the end of my stay there I believe it was always so; we could get no answer from it. I believe we often asked Planchette who the guiding spirit was; but I only once remember getting a definite connected answer. Then it wrote that his name was "Jim," and that he had been a Senior Wrangler. After other questions we asked it to write the equation to its own curve [in other words, to express mathematically the outline of the heart-shaped board]. Planchette wrote something like this quite distinctly—



(The curl backwards always denoted that the answer was finished.) We repeated the question several times, but each time the answer was the same, sometimes more, sometimes less distinct. We interpreted it as $r = \frac{a \sin \theta}{\theta}$. Miss Q. had never done any work in Polar co-ordinates at all and did not know how to use them. I had about a year previously done some elementary work with them when working for the B.Sc. Exam., London University, and I knew just enough to be able to draw the curve represented by the equation. In my first try I made a mistake and believed the curve to be quite a different one, but afterwards I drew the following, a double never-ending spiral:



We checked our result by taking the equation to the Mathematical Master at the Boys' College, who drew the same curve for us, but we did not tell him where we got the equation from. I cannot say whether the Planchette we used was really exactly the shape of the outside curve; I should rather fancy that with the heart shape the resemblance ended. I am *quite sure* that I had never seen the curve before, and therefore the production of the equation could not have been an act of unconscious memory on my part. Also I most certainly did not know enough mathematics to know how to form an equation which would represent such a curve, or to know even of what type the equation must be. But I had come across such equations and drawn the curves represented by them—for instance, afterwards I found in my note-book the spiral $r\theta = \frac{\pi a}{2}$, and the cardioid $r = a(1 + \cos\theta)$. We had used no text-book, and in the full notes of the lectures I had attended, these were the two curves I found most similar to Planchette's. If my brain produced the equation written by Planchette, it must have been that I unconsciously formed an equation like some I had seen before, which by a curious coincidence chanced to represent a heart-shaped curve.

I know that we were both quite unconscious of any influence we may have exercised on the Planchette.

CECILIA GARRETT SMITH.

MAGDEBURG, *November*, 1903.

Mr. Roberts wrote to Miss Q., sending her this account, and asking for her recollections of the incident, and she replies as follows (asking us not to publish her full name and address).

March 12*th*, 1904.

The planchette is not now in existence or I would make a sketch of it for you, but I remember distinctly that (1) there was a cusp at the dimple of the heart, and (2) that the curve at the other end crossed the axis so that there was only one tangent at the point, and that one was perpendicular to the axis.

The rest of Mrs. Garrett Smith's account is substantially what I remember except in a few details.

(1) I am described as not having done any work in Polar Co-ordinates and Miss Pole as having done only elementary work in them. This was not the case—I had taken my degree in Mathematics then, and used them freely, and so I think had Miss Pole. What I had not learnt to do was to trace curves from their

equations, and it was for this reason that I could not test planchette's answer. (2) I did not remember that Miss Pole had attempted to trace the curve. . . .

I (O. L.) made inquiries about Miss Q., and found that she was well known to friends of mine, and was a serious and responsible and trustworthy person, so I wrote some further questions to her, and received the following reply:—

March 23rd, 1904.

. . . As far as Miss Pole and I were concerned, it was quite bonâ-fidê, and was not open to any suspicion of practical joking or setting traps for each other. It is true that when we wrote planchette, it was never with any serious motive, such as with the object of testing the unconscious mind, or for any scientific purpose, but merely for the fun of the thing. We used to ask it to prophesy future events, and to make up poetry, and all purely for amusement, after the manner of schoolgirls. Nevertheless, all that was written was quite in good faith.

The equation written did not come within the mathematical knowledge I then possessed, which was limited to the mathematics necessary for the London B.A. Pass Degree. I knew of course that every curve could be represented by an equation, and I was familiar with polar co-ordinates in which the equation was written. But the only equations I could then identify were those of the conic sections. Miss Pole had read some elementary Differential, and knew more than I did, but my impression is that her knowledge was not sufficient to enable her to trace curves.

Certainly neither of us perceived from the appearance of the equation that the reply was the correct one, but that I think would have been too much to expect, even if our knowledge had been much higher than it was.

I did not know sufficient at that time to attempt to plot the curve. I believe Miss Pole did attempt it, but if so, her attempts were unsuccessful. We were not satisfied that the equation did represent a curve like the outline of the planchette till we had asked our mathematical master to trace it for us. (This was done without telling him any of the facts of the case.)

I do not remember that we ever closely compared the curve he drew in tracing the equation with the actual planchette in question. We did not take the matter very seriously, and were quite content when we saw that the solution was at all events approximately true.

On *now* tracing the curve represented by the equation, I am inclined to think that it very closely resembles the shape of the actual planchette used, from my memory of it. (The planchette is no longer in existence.) . . .

Concerning these statements, it is, as Mrs. Garrett Smith says, unfortunate that the actual shape of the Planchette board was not recorded; so that there is no means now of ascertaining in what way the curve met the horizontal axis, whether there ought to be a cusp at the dimple of the heart, and especially whether the longer branches of the curve are continuous, or, as in the sketch she first made, intersect the axis at about 45°. If the sketch is correct in this particular,[1] the equation given is not; for the curve represented by the equation would cross the axis normally. The equation which would naturally occur to any one is the cardioid $r = a(1 + \cos\theta)$; but it is quite likely, as Mrs. Garrett Smith says, that although as a student she was undoubtedly aware of this curve, she might not, some years afterward, be able to reproduce it on demand.

The equation written by Planchette is not a familiar one and certainly would not be likely to occur to her, nor would it have occurred to me; it may possibly represent the actual outline of the board better than a cardioid or than some other of the equations which are written below, but it does not appear to represent the rough sketch exceptionally well.

I asked my brother, Alfred Lodge, Professor of Pure Mathematics at the Royal Indian Engineering College, Coopers Hill, to suggest an equation that fitted the sketch, and he suggested $r = a\theta^2$, and $r = 2(10^{\theta/\pi} - 1)$, both of which seem to me better to represent the sketch than either a cardioid or the Planchette equation. He also suggested a series, expanding r in powers of θ, which comes to very much the same thing as the Planchette equation.

Hence I think it may be said,—giving it the benefit of some doubt as to the actual shape of the board, on the ground that when Miss Pole drew the curve her recollection is that it agreed moderately well with the real outline,—that the equation written by Planchette is not unworthy of a mathematician, and I should agree with Mrs. Garrett Smith in considering it distinctly beyond her normal power of rapid suggestion under the circumstances.

[1] Mrs. Garrett Smith explained later that her rough sketch was incorrect in this point, the longer branches of the curve being continuous, and the diagram given above is corrected accordingly.

When I asked my brother to suggest a curve to correspond to a heart-shaped board, I sent him nothing but the outline of Mrs. Garrett Smith's sketch, and did not tell him any of the circumstances. Afterwards I supplied him with the information and he wrote again as follows :—

"It is a pity the exact shape of the Planchette was not traced. Perhaps all planchettes are the same shape? The cardioid $r = a(1 + \cos\theta)$ is better in a sense than $r = a\frac{\sin\theta}{\theta}$ as the latter goes through the origin and twirls away for ever, whereas the cardioid stops there in a cusp. But IF the exact shape of the planchette were known it *might* be that $\frac{a\sin\theta}{\theta}$ fits it better than $a(1 + \cos\theta)$.

I may say that the $\left(\supset_{A}\right)$ angle at A put me off such a solution as $\frac{\sin\theta}{\theta}$, although it had gone through my mind that a series of powers of θ would be useful to try. I tried getting the cusp when $\theta = 0$, letting the angle at A take care of itself.

A. L."

[The above case is perhaps the only one among our records in which automatic writing has shown an extension of faculty beyond the ordinary powers of the automatist in this particular direction. It is comparatively common to find in automatic phenomena the faculties of memory and observation heightened, and with them the capacity of putting two and two together and drawing inferences. But this is not quite the same thing as concrete reasoning of a technical kind. The latter is comparable rather to the performances of "calculating boys" or the solving of problems in dreams, of which a striking case was given in an article by Dr. Romaine Newbold in *Proceedings*, Vol. XII., pp. 11-13. Some of Mr. Gurney's hypnotic subjects used to work sums with a planchette in response to post-hypnotic suggestions —rather more quickly, but apparently not more correctly than they could have done in their normal state. (See *Proceedings*, Vol. IV., pp. 304-6 and Vol. V., pp. 3-9). But these experiments were directed chiefly to showing the capacity of the subliminal self to carry on a piece of reasoning while the supraliminal consciousness was fully occupied with some other train of

thought;—*e.g.* when a subject correctly multiplied 12s. 3¾d. by 8, repeating aloud "God save the Queen" meanwhile, with every other word left out. On the other hand, in Dr. Bramwell's experiments on the hypnotic appreciation of time (*Proceedings*, Vol. XII., pp. 179-193) one at least of his subjects was able not only to remember figures better but to calculate more correctly with some stratum of her subliminal consciousness, than with her normal consciousness. Mr. Gurney's and Dr. Bramwell's cases, however, relate only to questions of simple arithmetical calculations. EDITOR.]

CASES.

L. 1140. Motor Impulse.

The following case has been received from a correspondent in New Zealand. As she has requested us not to give the names of the persons concerned, (all of which have been communicated to us privately), assumed names are substituted for the real ones throughout the narrative, and we call the narrator Miss Butler. She writes as follows:

March 30th, 1904.

Six years ago I was living with my father and a sister and brother on a farm, 5 miles from the nearest township and about 60 miles from Wellington. My friend, Miss Wilson, was living here in Wellington with her mother, and Miss Wilson and I kept up a regular correspondence. One morning I awoke very early and felt a strong desire to write a story. I sat up in bed and began at once. I finished it at about noon, and when my sister asked me to read it aloud to her, I said I could not, as the idea was so painful, and that I had put Mrs. Wilson in as one of the characters and that she died of cancer. I felt very depressed. Of course, as far as any of us knew, Mrs. Wilson was quite well and we had never associated this disease with her. Nevertheless I wished I had not written the story. This happened on a Sunday, and on the next day I received a long letter from Miss Wilson telling me that her mother had been operated on successfully on the preceding day (Sunday) at noon for cancer. She explained that she and her mother had known of the necessity for the operation for 10 days before, and that she had written me a letter telling me of it as soon as she knew, but that her mother had persuaded her to